

New image of hydro in France

GPAE

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Hydro in France

- 67 TWh, 24.000 MW
- 97% renewables – e
- Small hydro
 - 8 TWh
 - 1.500 hydro plants
- 3 major producers:
 - EDF
 - Suez
 - Small hydro: GPAE, Ecowatt



Previous situation

- Hydro considered as an old energy
- No more development
- The main obstacle for fishes and water life
- From law to law, new restrictions:
 - Residual flow
 - Fish passes
 - Peak generation
 - Extreme difficulties for new license
 - Dam erasing



Kyoto Protocol

- RES directive: need of increasing 33 TWh
- 2004 warning about water law project consequences: - 4 TWh / + 6 TWh
 - Preserving existing potential
 - Development still available
 - Except some fishermen or ecologists, hydro is well accepted
- Hydro is an ecological challenge



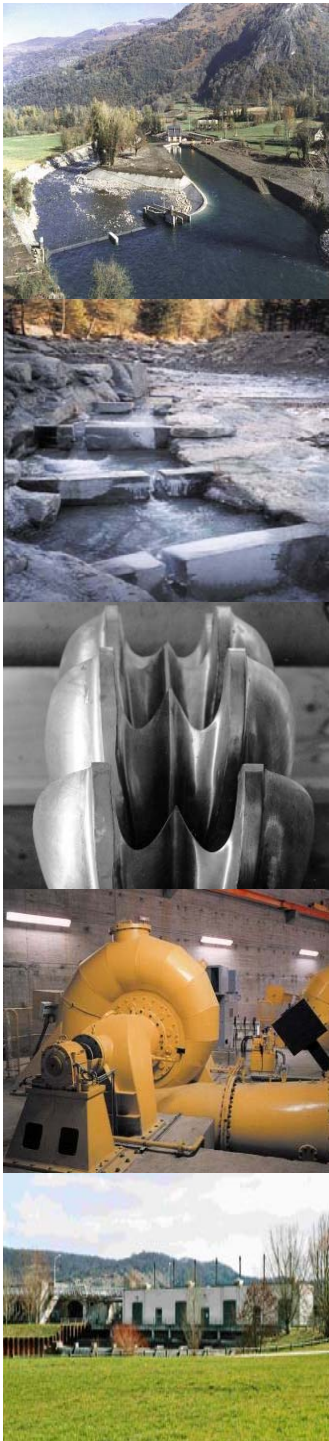
New energy law – water law in coherence

- Common working group : Industry – Ecology ministries – Large and small hydro
- New energy law (13 July 2005)
 - Water management includes energy and CO₂ effect (environment code : article L 211-1)
 - Every administrative water act includes energy impact evaluation
 - WFD measures program takes care of energy development
 - 20 % empowering possible without new license procedure



New energy law – water law in coherence (2)

- Water law (still in Parliament)
- Good news:
 - Residual flow less than 1/10th for:
 - Large rivers (80 m³/s) : 1/20th
 - Peaking hydro plants: 1/20th
 - Atypical cases
 - Restricted rivers:
 - Actual list revision before 2014
 - Criteria : very good status, river – sea migration
- Bad news:
 - one more criteria: “biological reservoir” ??



Ministry of Finance White Book

- Just edited
- Hydro development potential still important :
28 TWh for 67 TWh existing
- Hydro peaking must be developed
- Feed-in tariff adapted to long hydro life
- Licensing process more efficient
- Water stakeholders and local administration
meeting to change minds

